

Amendment to the Claims

What is claimed is:

1. (Currently amended) A method for the extraction and desorption of at least one analyte in a liquid phase analyte-bearing sample, said method comprising:

providing a ~~tubular member~~gas chromatograph injection port liner sized for ~~communication with an analytical device~~ to be encapsulated within an injection port housing of a gas chromatograph, said gas chromatograph injection port liner having a passageway therethrough, said gas chromatograph injection port liner having an interior surface defining said passageway;

coating an ~~said~~ interior surface of said ~~tubular member~~gas chromatograph injection port liner with a sorptive coating, said sorptive coating selected to partition said at least one analyte from said liquid phase analyte-bearing sample;

injecting said liquid phase analyte-bearing sample into said passageway of said coated tubular membergas chromatograph injection port liner;

sorptively extracting said at least one analyte from said liquid phase analyte-bearing sample, leaving a liquid phase remaining analyte-bearing sample;

removing said liquid phase remaining analyte bearing sample from said coated ~~tubular member~~gas chromatograph injection port liner;

desorbing said at least one analyte from said coated ~~tubular member~~gas chromatograph injection port liner; and

introducing said desorbed at least one analyte into said ~~analytical device~~gas chromatograph.

2. (Cancelled) The method of claim 1, wherein:
- said analytical device is a gas chromatograph;
- said gas chromatograph having an injection port housing;
- said injection port housing receiving said tubular member therein.
3. (Original) The method of claim 1, wherein said sorptive coating comprises at least one selection from the group consisting of:
- (a) an immobilized polysiloxane polymer, having two attached functional groups, wherein the first attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl, and the second attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl;
- (b) a porous layer;
- (c) other immobilized polymers above their glass transition temperature;
- (d) an immobilized porous polymer;
- (e) a sol gel; and
- (f) an immobilized adsorbent.

4. (Currently amended) The method of claim 3, wherein:

said injection step includes connecting said coated ~~tubular member~~gas chromatograph injection port liner to a vessel;

said vessel containing said liquid phase analyte-bearing sample; and

said removing step includes separating said coated ~~tubular member~~gas chromatograph injection port liner from said vessel.

5. (Cancelled) The method of claim 3, wherein:

said analytical device is a gas chromatograph;

said gas chromatograph having an injection port housing;

said injection port housing receiving said tubular member therein.

6. (Cancelled) A method for the extraction and desorption of at least one analyte in a liquid phase analyte-bearing sample, said method comprising:

providing a gas chromatograph injection port liner sized to be encapsulated within an injection port housing of a gas chromatograph, said gas chromatograph injection port liner having a passageway therethrough, said gas chromatograph injection port liner having an interior surface defining said passageway~~tubular member sized for communication with an analytical device;~~

coating an interior surface of said gas chromatograph injection port liner ~~tubular member~~ with a sorptive coating, said sorptive coating selected to partition said at least one analyte from said liquid phase analyte-bearing sample, leaving a liquid phase remaining analyte-bearing sample said sorptive coating comprising at least one selection from the group consisting of:

(a) an immobilized polysiloxane polymer, having two attached functional groups, wherein the first attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl, and the

second attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl;

- (b) a porous layer;
- (c) other immobilized polymers above their glass transition temperature;
- (d) an immobilized porous polymer;
- (e) a sol gel; and
- (f) an immobilized adsorbent;

injecting said liquid phase analyte-bearing sample into said coated gas chromatograph injection port liner~~tubular member~~;

sorptively extracting said at least one analyte from said liquid phase analyte-bearing sample, leaving a liquid phase remaining analyte-bearing sample;

removing said liquid phase remaining analyte bearing sample from said coated gas chromatograph injection port liner~~tubular member~~;

desorbing said at least one analyte from said coated gas chromatograph injection port liner~~tubular member~~; and

introducing said desorbed at least one analyte into said gas chromatograph~~analytical device~~;

~~said analytical device is a gas chromatograph;~~

~~said gas chromatograph having an injection port housing; and~~

~~said injection port housing receiving said tubular member therein.~~

7. (Currently amended) A ~~tubular member~~gas chromatograph injection port liner for performing extraction and desorption, said gas chromatograph injection port liner sized to be encapsulated in the injection port housing of a gas chromatograph ~~said tubular member~~gas chromatograph injection port liner comprising:

an inlet, an outlet, and a passageway therethrough;

said passageway providing fluid communication from said inlet to said outlet;

said passageway defined by an interior surface;

said interior surface coated with a sorptive coating, said sorptive coating selected to partition said at least one analyte from said liquid phase analyte-bearing sample, to leave a liquid phase remaining analyte-bearing sample; and

said sorptive coating comprises at least one selection from the group consisting of:

(a) an immobilized polysiloxane polymer, having two attached functional groups, wherein the first attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl, and the second attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl;

(b) a porous layer;

(c) other immobilized polymers above their glass transition temperature;

(d) an immobilized porous polymer;

(e) a sol gel; and

(f) an immobilized adsorbent.

8. (Original) The device in claim 7, further comprising:
said interior surface having a uniformly smooth surface.
9. (Original) The device in claim 7, further comprising:
said interior surface having an irregular surface.
10. (Original) The device of claim 7, wherein:
said tubular member is received into the injection port housing of a gas chromatograph.
11. (Currently amended) A ~~tubular member~~ gas chromatograph injection port liner sized to be encapsulated within the injection port of a gas chromatograph for performing extraction and desorption, said ~~tubular member~~ gas chromatograph injection port liner comprising:
an inlet, an outlet, and a passageway therethrough;
said passageway providing fluid communication from said inlet to said outlet;
said passageway defined by an interior surface;
said interior surface having a uniformly smooth surface;
said interior surface coated with a sorptive coating, said sorptive coating selected to partition said at least one analyte from said liquid phase analyte-bearing sample, to leave a liquid phase remaining analyte-bearing sample; and
said sorptive coating comprises at least one selection from the group consisting of:
(a) an immobilized polysiloxane polymer, having two attached functional groups, wherein the first attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl, and the

second attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl;

(b) a porous layer;

(c) other immobilized polymers above their glass transition temperature;

(d) an immobilized porous polymer;

(e) a sol gel; and

(f) an immobilized adsorbent.

12. (Currently amended) A ~~tubular member~~ gas chromatograph injection port liner sized to be encapsulated within the injection port of a gas chromatograph for performing extraction and desorption, said ~~tubular member~~ gas chromatograph injection port liner comprising:

an inlet, an outlet, and a passageway therethrough;

said passageway providing fluid communication from said inlet to said outlet;

said passageway defined by an interior surface;

said interior surface having an irregular surface;

said interior surface coated with a sorptive coating, said sorptive coating selected to partition said at least one analyte from said liquid phase analyte-bearing sample, to leave a liquid phase remaining analyte-bearing sample; and

said sorptive coating comprises at least one selection from the group consisting of:

(a) an immobilized polysiloxane polymer, having two attached functional groups, wherein the first attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl, and the

second attached functional group is selected from the group consisting of: alkyl, alkenyl, alkynyl, aryl, alkylaryl, alkenylaryl, alkynylaryl, haloalkyl, and haloaryl;

(b) a porous layer;

(c) other immobilized polymers above their glass transition temperature;

(d) an immobilized porous polymer;

(e) a sol gel; and

(f) an immobilized adsorbent.

13. (Currently amended) A method for the extraction and desorption of at least one analyte in a liquid phase analyte-bearing sample for use with a heated gas chromatograph, said chromatograph including an injection port housing, said method comprising:

providing a tubular-membergas chromatograph injection port liner sized to be encapsulated within said injection port housing of said heated gas chromatograph as a gas chromatograph injection port liner, said gas chromatograph injection port liner-sized-to-fit-within said injection port housing;

coating an interior surface of said tubular-membergas chromatograph injection port liner with a sorptive coating;

injecting said liquid phase analyte-bearing sample into said coated tubular-membergas chromatograph injection port liner;

sorptively extracting said at least one analyte from said liquid phase analyte-bearing sample, leaving a liquid phase remaining analyte-bearing sample;

removing said liquid phase remaining analyte bearing sample from said coated tubular-membergas chromatograph injection port liner;

installing said ~~tubular member~~gas chromatograph injection port liner in said injection port housing of said gas chromatograph;

increasing the temperature of injection port housing by heating from said heated gas chromatograph until said at least one analyte is desorbed from said coated ~~tubular member~~gas chromatograph injection port liner; and

introducing said desorbed at least one analyte into said ~~analytical device~~gas chromatograph.

14. (Currently amended) The method of claim 13, wherein said sorptive coating is selected to partition at least one analyte from said liquid phase analyte-bearing sample.